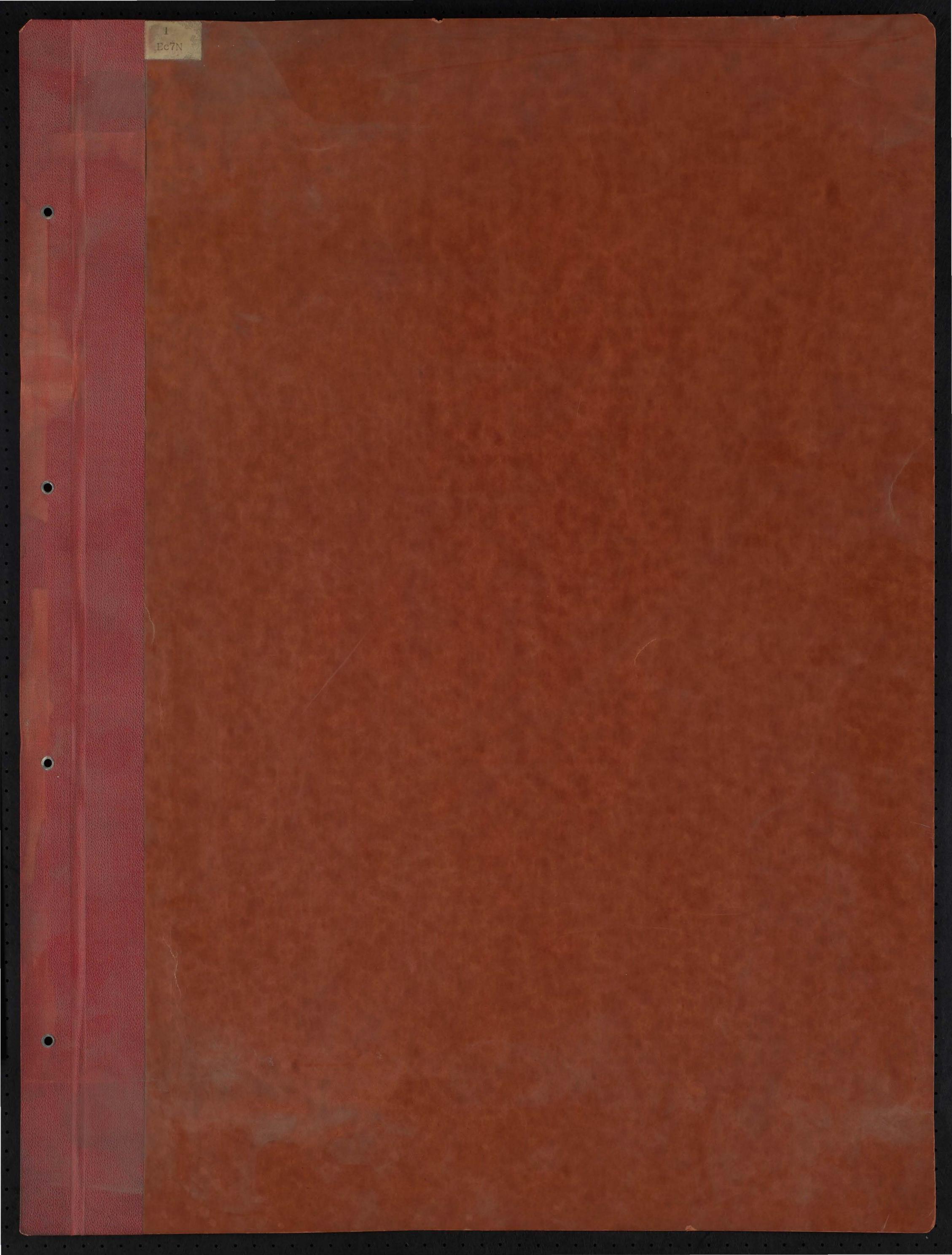
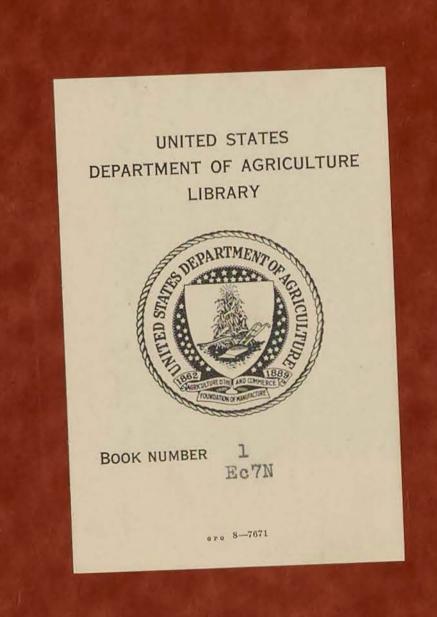
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duction, extensive grazing, or combinations of productive silt loams and shale loams from soils; much bottom land. these uses, has not been thoroughly demon-shale hills. such improvement in order to bring the lands | 10. Similar to 9, but warmer. another, has been marked by lack of success, by loams with friable subsoils. structive erosion. Most of these areas also contain land of demonstrated agricultural quality. 13. Similar to 12, but warmer. too small to be recognized as separate areas. many lakes, ponds, peat bogs.

no sharp boundaries. Climate, soil, and surface with poor drainage.

may be land on which farming, for one reason or erately productive brown silt loams and impervious subsoils. abandonment of farms or rural poverty, or by de- 12. Nearly level; dark, heavy, poorly drained rainfall in warm season. There are many exceptions to the general char- 14. Gently to strongly rolling; moderately pro- spersed with rolling to hilly lands having the east. acter of these areas in the form of bodies of land ductive brown sandy loams and loams; Most of the areas contain some range in char- 15. Similar to 14, but warmer.

strated. Such land in some cases consists of unde- 9. Undulating to gently rolling; grayish- ductive silty soils, some poorly drained. loams and silt loams; limestone outcrops. with pervious subsoils. veloped land which needs drainage or clearing, brown silty soils with compact subsoils 31. Similar to 30, but interspersed with a conand in which the desirability of undertaking and poor underdrainage; cooler than 10. siderable proportion of lighter colored, brown or dark-gray silt loams to fine sandy with impervious subsoils. rolling, forest soils. into production is uncertain. In other cases it | | Gently to strongly rolling moraines; mod-33. Similar to 32 but having slightly heavier

34. Nearly level lands having dark, productive light-colored silty soils. 35. Level lands having dark, silty soils like calcareous soils. acteristics. Climatic conditions particularly have 16. Undulating; productive clay loams, some association with the interspersed rolling dark, productive, heavy soils. no sharp boundaries. Climate, soil, and surface
configuration are the physical characteristics of
configuration are the physical characteristics o or hilly lands, which are dark-brown loams.

54. Gently rolling with occasional hilly lands;

72. Undulating; dark-brown, productive, 85, 86, and 87, except for warmer summers cause of leeward lake-shore position.

soils; more productive than 218. sands predominating.

than 44, permitting cotton production. hilly lands; dark grayish-brown, productive soils of various tex- 100. Undulating lands interspersed with hum- 122. Arid plains interspersed with low moun-50. Undulating; dark-brown productive silty tive, silty soils; subhumid, but more moist tures; more moist than 88. soils with heavy subsoils; warmer than 45. than areas to the west. 51. Undulating, interspersed with occasional 69. Gently rolling, interspersed with steep diverse; frequent ocean fogs increase huhilly lands; dark-brown, productive soils; lands; dark, productive soils; lands; la silty soils with compact subsoils, intermore humid than 95 but less than areas to compact subsoils; more broken and more ately productive loams and silt loams are ranges. subject to hot winds than 78. 52. Gently rolling; dark, productive, heavy, 70. Undulating; dark, productive, silty soils; 87. Mountains and smooth plains; soils diverse; 102. Undulating; brown sandy loams and sands, grazing than those in 124, interspersed

with some dune sand.

moist than area on the west; less moist 89. Smooth valleys, and interspersed hills and urban development.

much irrigated land; slopes about borders 99. Gently rolling lands interspersed with 119. Arid lands, both smooth and broken. 84. Smooth valleys and intervening rough and sandy loams; muck, marshes and poorer grazing than those in 119. loams, many with compact subsoils; warmer 68. Undulating, interspersed with rolling to mountains; yellowish or reddish brown, other poorly drained land. 85. Hills and smooth plains interspersed; soils soils. verse; frequent ocean fogs; cooler than 87. important; summers warmer than in 100. more moist than 73; less moist than 45. frequent ocean fogs; slopes farthest from some poorly drained. those in 34, but occurring in more intimate

53. Gently rolling, with occasional steep lands; to a land, and sandy loams, and

with steep trap-rock ridges; brown or woodland. 83. Level to gently rolling; soils diverse; some reddish-brown loams, sandy loams, and 118. Arid lands; broken and smooth; some irri-30. Nearly level to gently rolling; dark, pro- 48. Gently rolling; reddish-brown productive 66. Undulating; dark, pro- clay loams; sandy outwash plains.

mocky moraines; sandy, poorly productive tains.

steep trap-rock ridges; brown or red loams 120. Arid lands; drier, more alkaline, and with 121. Arid plain; in considerable part irrigated. 123. Arid plains; smooth and broken; consider-

less rainfall than 146.

grass covered, with occasional arid valleys. 150. Alkali deserts; no forage; waste land.

DESERTS

much irrigated land. peat bogs and lakes. 140. Rugged mountains. retentive of moisture. 142. Rugged mountains with a few smooth 161. Undulating; brown, silty or occasionally poor drainage. mountain valleys. sandy soils; less moist than 72. 143. High plateaus; undulating to broken; shallow stony soils. 144. Rugged mountains. 145. Rugged mountains.

tures; less moist than 78; more moist than 163; warmer than 161. 163. Gently rolling, with some broken lands; brown soils of various textures; moisture barely enough for dry farming; less moist than 162 or 164. Much irrigated land. 164. Smooth and rough lands interspersed; 148. Desert basins and ranges with very little brown soils of various textures; more 88. Mountains and smooth valleys; similar to thermal conditions favorable to fruit be- ranges; some irrigation; warmer than 125. temperatures, but lower than those in 149. than 163 or 165. 149. Hot desert, with little or no use of the land 165. Undulating; loose, sandy soils; shallow 204. Gently rolling, interspersed with hilly and 221. Gently to moderately rolling, interspersed with hill and a second wi

the east.

160. Gently to strongly rolling, with occasional heavier rainfall. broken lands; soils diverse, some poorly 179. Level to undulating; brown or gray silty COASTAL PLAIN FLATWOODS

181. Level; poorly drained silt loams, sandy light-colored well-drained sandy loams. friable subsoils. larger amount of well-drained soils, and loams with friable subsoils. warmer summers. season and warmer summers.

land; brown sandy loams and silt loams; 178. Similar to 177, but more poorly drained 197. Gently to strongly rolling; light-colored and shallow in many places. and with longer frost-free season and fine sandy loams with friable subsoils pre- 215. Steep hills; light-colored stony soils; creek- 234. Gently rolling, interspersed with hilly

dominate, but some soils have heavy clay bottom settlements. subsoils. soils, many with compact subsoils and 198. Rolling; light-colored fine sandy loams rupted by steep, broken, gorgelike valleys; with heavy clay subsoils. 199. Similar to 198, but with heavier rainfall. ridge-top settlements. 180. Level; gray, poorly drained silt loams and sandy soils with heavy clay subsoils; more cotton production. drained than 198.

sands.

200. Undulating to gently rolling; light-colored 217. Similar to 216, but warmer, permitting 235. Gently rolling; stony, shallow soils, some rolling than 187; less rolling and less well- 218. Undulating, rolling, and rough lands; light-182. Similar to 181 but with less deep swamp, a 202. Rolling; light-colored sands and sands lands; light-colored sands and sands. 255. Rolling, with some undulating, lands; gray sands. 203. Rolling; light-colored sandy loams with cept in bottoms. broken land than in 162 or 163; more moist 183. Similar to 182, but with longer frost-free heavy clay subsoils; deep light-colored 220. Steep lands, with light-colored very stony,

silty soils.

216. Gently rolling plateau remnants, inter-

light-colored, mainly sandy loam soils; 219. Steep, hilly lands, some gently rolling up. 237. Gently rolling, interspersed with hilly, cotton production.

bogs; less stony than 229; cooler than 284.

lands; grayish-brown, productive loamy soils from calcareous drift; peat bogs. LAKES STATES DIVERSE CUT-OVER AREAS where deep and less stony.

thermally favorable to fruit.

occasional bodies of smooth or rolling arable lands; those at lower elevations dark and productive but have inadequate rainfall; light-colored, humid soils at

higher elevations; much irrigated land. MISSISSIPPI SILT LOAM UPLAND-PIEDMONT poorly drained, moderately productive 253. Rolling; well-drained, light-colored sandy sands and sandy loams, with occasional underdrainage.

cotton production.

productivity. 269. Gently rolling, interspersed with rolling to hilly or steep, lands; dark-brown, productive silty soils on smooth prairie lands; lighter colored, less productive silt loams loams or red clay loams, more leached and or gravelly loams elsewhere. colored silty soils, in many places stony or 236. Level; light-colored sands and sandy loams more subject to erosion than those of 7. 270. Rolling, with occasional undulating, lands; loams, peat and peaty muck; occasional 201. Rolling; light-colored sandy loams with gravelly, less productive than those of 47. with occasional bedies of dark heavy soils. 254. Similar to 253, but warmer, permitting brown, moderately productive fine sandy loams, interspersed with light-colored light-colored silty soils, well-drained ex- 238. Gently rolling to hilly lands; light-colored to reddish-brown silty soils, some with poor 271. Nearly level to gently rolling valleys sur-

rounded by rolling to hilly foothill lands; heavier soils; leeward lake shore position 256. Similar to 255, but warmer, permitting soils moderately productive; mainly silty or heavier; porous layer found in those of red clay subsoils; occasional sands.

soils diverse; rainfall less than in 271.

colored poorly productive soils on the hills.

ductive silty soils; steeper parts low in

268. Rolling to hilly; brown, moderately pro-

steep, broken, lands; light-colored, sandy with steep, stony, lands; light-colored sand plains, and bodies of loamy, silty, or reddish-brown sandy loams, with friable 272. Gently rolling valleys and rolling footbills clay soils in association. soils; some dark, productive, heavy soils. gravelly loams and silt loams.

## SOURCE MATERIAL

LEVERETT, F.

LOGAN, W. N.

WILSON, M. L.

The division of the United States into natural land-use areas necessitated the use of many sources of information. Those sources which provide information that was obtained by systematic and detailed survey and was systematically recorded in maps or reports, are the primary sources. They include such material as the county soil surveys published by the Bureau of Chemistry and Soils, United States Department of Agriculture, comparable soil surveys published by certain of the States, topographic maps of the United States Geological Survey, land-classification maps made by the agricultural division, Conservation Branch of the Geological Survey, climatological data obtained and published by the United States Weather Bureau, and the survey notes of the General Land Office, United States Department of the Interior. In this work CALIFORNIA: most reliance was placed on such primary sources. The United States census data were used as a primary source of statistics of land use. Many miscellaneous publications, containing regional and local information on the physical character of the land and its relation to land use, were consulted. Some of the material in these publications is based upon compilations or interpretations of primarysource material, some is based upon reconnaissance surveys of different degrees of thoroughness, and some is the result of special local surveys of various kinds. This miscellaneous material was used to supplement the primary-source material or to supply information in places where the primary-source material was inadequate. The county soil surveys conducted cooperatively by the Bureau of Chemistry and Soils and the various States are parts of a systematic survey of a large part of the country, and since they describe the geographic environment rather fully and consistently they were relied on for all territory for which they were available. In some sections reconnaissance surveys cover groups of counties not included in the more detailed county surveys. In Illinois the soil surveys are made and published by the State agricultural experiment station. The topographic maps made by the United States Geological Survey supplied information concerning surface configuration over much of the country. In some instances interpretations as to the character of soil and drainage were made from the evidence presented by the topographic maps. The land-classification maps, prepared by the agricultural division, Conservation Branch, United States Geological Survey, provided a basis for much of the division in the central and northern Great Plains and in Utah and western Colorado. This series of maps classifies the land into various grades according to its use possibilities. The survey notes of the General Land Office supplied information for many sections of those States having the rectangular land survey for which other information was lacking. These notes record surface configuration, soils, and vegetation along the surveyed lines. Unpublished maps made by F. J. Marschner, Division of Land Economics, Bureau of Agricultural Economics, United States Department of Agriculture, showing the details of the distribution of the original vegetation in Minnesota and Michigan as obtained from the survey notes of the General Land Office, were used in interpreting physical conditions in parts of those States. The climatic basis of the division was obtained largely from Climatological Data of the United States, by Sections; Summary of Climatological Data of the United States, by Sections; of the Weather Bureau, United States Department of Agriculture, and the various climatic sections of the Atlas of American Agriculture, published by the United States Department of Agriculture. Interpretation of the physical character of the land, in some cases, was made from the character of crops and land use as indicated by the Census of Agriculture, for localities for which more definite information was lacking. Members of the staffs of the different State Agricultural Experiment Stations contributed many helpful suggestions. Correspondence and interviews with persons familiar with the different localities supplemented published material. As more complete data become available it will probably be necessary to refine some of the boundaries, since the incompleteness of information has necessitated the use of approximate boundaries for a few areas. Publications covering the country as a whole are listed under All Regions. Those covering only a portion of the country are listed by States or groups of States. LIST OF REFERENCES

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